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Retention related to self-efficacy in student nurses

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RETENTION RELATED TO SELF-EFFICACY IN STUDENT NURSES

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By

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ABSTRACT

RETENTION RELATED TO SELF-EFFICACY IN STUDENT NURSES

by Margaret J. (Chris) Eaton, IHM, RN

The purpose of this study was to measure retention rates of student nurses who had been consistently exposed to self-efficacy raising techniques. The first year class of an Associate Degree program in central California was chosen for the study. These 35 students were given a four-part pencil and paper test to determine levels of self-efficacy as defined by Bandura (1986), then randomly assigned to one of three groups for clinical experience. The instructor for the first, or self-efficacy clinical group recognized and treated students as adult learners. In addition, this instructor utilized techniques (skills mastery and feedback, verbal persuasion, and modeling) to raise self-efficacy. The instructors for clinical groups #2 and #3 utilized their usual techniques. At the end of the semester it was found that 100% of the self-efficacy group was retained as compared to 85% and 88% of the other two groups.

ACKNOWLEDGEMENTS

To the students, who remain

my inspiration and

my dear friends whose patience is unbelievable.

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INTRODUCTION

It is well-publicized and common knowledge today that there is a severe nursing shortage. The evidence points not to a declining supply of nurses, but to a changing need for nurses (Aiken, 1988). The numbers of students seeking entrance into nursing programs began to dip sharply in the early 1980's and the shortage of qualified applicants persists still. Moore (1989) suggests that there has been a 13% decrease in enrollments in nursing programs since 1983, with an estimated loss of 50,000 students. There are many well documented reasons for this trend (Bower, 1989). There are many more options open to women today than former generations enjoyed. Nursing is no longer necessarily looked upon as a noble profession, but is seen for what it often is--a profession which entails a lot of hard work and ever-increasing responsibility. It has also become clear that nurses are under-appreciated and poorly compensated (Jackson, MacFalda & McManus, 1989). It would seem a worthwhile goal to expend creative energy to retain as many students as possible within the educational system.

It was with retention in mind that this research was undertaken. If those students who did not feel within themselves a strong sense of survival for the first semester of a nursing program could be identified and helped, more might then stay to completion. They would graduate and add to the numbers

needed in the profession.

The small community college in central, coastal California selected for this study has a student population that averages between eight and nine thousand ethnically mixed students. The nearest city has a population that is 51% Hispanic. It is largely a farming community with some light industry.

The associate degree program in nursing was started in 1963 and has graduated approximately 25 students each year. Graduates range in age from 21 to 50.

There are four community college associate degree nursing programs within a 50 mile radius. Many of the students who live more or less centrally located to more than one educational institution apply for admission to at least two programs. If accepted at both, they can then make the choice of which program best suits their needs. Incoming students are aware that a nursing shortage exists and that the opportunity for education in a dynamic and needed profession is before them.

Statement of the Problem

It is currently recognized that there are thousands fewer nurses in the United States than are needed (Moore, 1989). This shortage has been in effect for years and in most areas, shows few signs of abating. The reasons underlying this problem are multifactorial and in themselves raise as many questions as they answer. Does some part of the shortage problem reside

within the nursing education system? For instance, what sort of confidence level does an in-coming student nurse possess, and what effect does the first few weeks of nursing school have on the student's belief about his/her ability to complete even the first semester of a program? Even a student with elevated and fairly consistent levels of self-confidence may lack self-efficacy concerning nursing school.

Self-efficacy is derived from social learning theory and is defined by Bandura (1986) as people's judgment of their abilities to organize and execute those courses of action required to attain specific types or levels of performances. Lorig (1988) points out that self-efficacy is behavior specific. For example, most people have high self-efficacy for dressing and feeding themselves, but not necessarily the same level of efficacy for other activities.

Any educational program requiring a high level of performance and critical thinking will have related levels of stress. A given individual's perceived ability to complete such a program may be measured in any one of several ways. If a test is taken which would serve as an indicator of self-efficacy in a specific area, and the person tested is found to have lower than desired self-efficacy, that person is in need of early intervention to raise the self-efficacy level and complete the desired educational goals.

Purpose of This Study

Typically, when a student begins the study of nursing she or he is

designated a "slot" for the prescribed length of time until the program is successfully completed. Since lateral movement from nursing school to nursing school is seldom possible if a student drops out of a program his/her "slot" remains unfilled. One result of this is smaller classes; another result is a teacher-student ratio which is favorable to the students but of concern to administration because the program is now less cost-effective with fewer students. Probably the most important result is that the educational plans of such a student must necessarily be set aside, at least for the time being.

In an effort to identify and improve low self-efficacy among beginning student nurses, and as a possible aspect of retention, this study was undertaken. If students with identified low self-efficacy for completing the first semester of nursing school can be assisted to the point of success, then it is worthwhile to undertake such a project. The current nursing shortage demands retention of every truly interested disciple.

Research Question

What are the retention rates of students who have been consistently exposed to self-efficacy raising strategies?

Definition of Terms

Self-efficacy - Bandura (1986) defines self-efficacy as people's judgment of their abilities to organize and execute courses of action required to attain designated types of performances. Self-efficacy does not deal with skills as

such, but rather with the attitude one has about the ability to carry out the skills. Unlike self-esteem which is considered a generalized condition, self -efficacy is behavior specific.

ADN - The initial designation for an associate degree nurse, the product of a community college program of study. It differs from the baccalaureate nursing program in that there is less emphasis on leadership and the liberal arts and more emphasis on hands-on skills. The ADN program generally takes two years to complete; another one or two years is needed for pre-requisites and related course work

Skills-mastery and Feedback - a teaching strategy in which the student nurses are shown a skill and allowed sufficient time for practice. They perform the skill and receive verbal responses. This process is repeated until the skill is mastered.

Modeling - Seeing a behavior carried out correctly by someone similar to the learner. For example, a student nurse observes her instructor successfully initiate an intravenous infusion.

Verbal Persuasion - This is the third technique for enhancing self-efficacy. Oral feedback is given regarding performance by someone whose opinion is trusted. This technique excludes such platitudes as, "Of course you can!" because they may not be believable. If the expectation of the trusted other is slightly above what a person thinks himself capable of, it proves to be

a powerful builder of self-efficacy and the person tends to try harder.

Androgogy - The principles utilized in teaching adults as opposed to those utilized in the teaching of children.

Pedagogy - The body of knowledge and those principles used in the teaching of children.

In summary, a small population of beginning student nurses in an ADN program in a community college in central coastal California were tested for self-efficacy utilizing a four-part paper and pencil test addressing academic, clinical, interpersonal and stress components. This tool is an adaptation of one developed by Dr. Therese LaFromboise at Stanford University in 1986. The original tool was designed for use among student nurses in a university setting where the expectations, emphases, and levels of sophistication are somewhat different than those on a community college campus . (Original tool included in Appendix B). The revisions for use in this study were carried out in part from the suggestions made by Dr. Albert Bandura at Stanford in 1990.

Chapter 2

CONCEPTUAL FRAMEWORK AND REVIEW OF LITERATURE

There is a natural blending of two threads of thought when dealing with learners who are adults and adult students' perceptions of their ability to accomplish a given task--in this case, the completion of the first semester of a nursing program. Malcolm Knowles (1979) was the pioneer in the field of adult education. He gave a clear indication that adults cannot be treated as learning children are treated for they have little in common. The respect accorded an adult in a learning situation differs from that given to children under the same circumstances. Bandura's (1977) structure of self-efficacy addresses the adult learner's situation, and Knowles' (1970) theory of adult learning furnishes a basis upon which to proceed.

Literature has indicated that a person with low self-efficacy stands an increased chance of not completing whatever task is deemed difficult. Lorig (1988) points out that self-efficacy does not deal with skills as such, but with a person's judgment or belief of how he or she can apply certain skills in order to complete an objective.

Bandura (1977) suggests that performance accomplishments furnish important efficacy information, based as it is, on the ability of a person to personally master experiences. Other sources of efficacy reinforcement may include modeling of behavior by others and the use of verbal persuasion.

The population of student nurses comprises adult learners whose manner of learning necessarily differs from that of children (Knowles, 1970). The discussion which took place in the late 1960's concerning "androgogy" (the teaching of adults) versus "pedagogy" (the teaching of children) is relevant to this study because self-efficacy is bound to be affected by the manner in which an adult learner is approached by those responsible for his or her learning. Tarnow (1979) reminds us that the influence of adult roles on the learning process must be recognized and taken into account.

Conceptual Framework

In an effort to place self-efficacy in the adult setting in which nursing education takes place, it must be coupled with those principles of adult education germain to the population. Those involved in education are aware that it is no longer possible to define education as a process of transmitting what is known. Since the sixties, education has been looked upon as a life-long process of discovering what is not known (Knowles, 1970). It was at one time a given that what a child learned as a child lasted him or her a lifetime; what a child learns as a child in 1992 will be largely obsolete by the time that child reaches adulthood. What presently is taught to adults will suffice for a time as a body of information. However, what the adult really needs to learn is how to find needed information. In the case of student nurses, there are basics which have not changed radically in several

years: the giving of a bath, or the taking and recording of vital signs. In most areas of nursing however, there has been the same explosion of information combined with changes in levels of responsibility experienced by every field with a scientific base and in many of the human services as well. For the adult then, the need is for facilitation of learning. The simple imparting of information is not sufficient; in the dynamic field of nursing the information keeps changing. The skills involved in critical thinking are vital.

There are still a number of dictionaries which do not include the word androgogy. Knowles (1978) includes a brief history of the use of this term to signify the teaching of, and learning needs of adults as opposed to those of children. As early as 1833, a German grammar school teacher used the word to describe the educational theory of Plato, although apparently Plato never used the term himself (Knowles, 1970). The term is found in other German literature and also in articles published in Switzerland. Educational programs utilized the terminology in Yugoslavia and Hungary in the 1950's. Universities in Yugoslavia, Hungary, and Amsterdam offer doctoral programs for androgogues (Knowles, 1978).

The theory of androgogy-based adult education has four main assumptions (Knowles, 1970).

1. As a person matures his self-concept becomes one of increasing self-direction.

2. The mature individual has accumulated an expanding reservoir of experience that enables him to become a rich resource for learning and at the same time broadens his knowledge base.

3. As an individual matures, readiness to learn is less the product of physical development and academic pressure and increasingly the product of the developmental tasks required for the performance of evolving social roles.

4. Children within our educational system have been conditioned to have a subject-centered orientation to learning while adults tend to have a problem-centered orientation to learning. The child will put learning to use someday; the adult needs the new knowledge tomorrow. In fact, the reason the adult has again entered the educational system is because he or she is experiencing some inadequacy in coping with current life problems. Further education is seen as a highly possible remedy.

It can be readily seen that the framework so applicable to adult learning is supporting of research aimed at assisting the adult to meet educational goals. As adults mature they tend to define who they are by the experiences that have made up their lives. To make the experiences successful is to enable the person to be successful. In merging the four-point theory of androgogy-based adult education with the triple-faceted approach to raising self-efficacy a strong framework becomes evident. This combination provides

an intelligent, accepting approach to the student nurse as adult learner.

Review of Literature

Nursing Shortage

Nursing shortages are not new. They tend to be cyclic and multifactoral in origin (Aiken, 1984, 1988). Ordinarily when there is an increased demand for labor in any profession, wages rise and incentives are put in place, attractive enough to ensure an adequate influx of personnel to fill the shortage. The wage gap was slow to begin closing in nursing and a major complaint remains at the present time that nurses still do not earn wages commensurate with the level of responsibility they are expected to assume. Aiken (1988) has chronicled the reasons, real and mythical, for the two most recent nursing shortages. While many factors enter into the overall shortage picture, the concrete reasons which can be based on fact remain elusive.

Admissions to nursing schools have more than doubled and the numbers of employed nurses have tripled over the last three decades (Aiken, 1984). In spite of this trend, the hospital demands for nursing services are not being met (Jackson et al., 1989). That nurses have left nursing for other types of jobs or nonhospital jobs is simply not supported by fact (Jackson et al., 1989). It is true, however, that there is an increasing intensity of hospital care and more hospitalizations for an ever increasing elderly population. The need for nurses due to these elements has outstripped the supply (Aiken,

1988).

Job satisfaction plays an important role in the retention of nurses in nursing. Nonmonetary rewards are often mentioned by nurses in polls addressing the nursing shortage. The responsibilities for critical decision-making have increased tremendously in the past 15 years. The continued undervaluation by hospital administrators and physicians undoubtedly adds to nurses' dissatisfaction with the current status of the profession (Young, 1989).

Self-efficacy

There is precedent for establishing a connection in the study of health professionals and self-efficacy. Lee and Schmaman (1987) studied speech pathology students before and following clinical experience using self-efficacy as a determinant of confidence and skill.

Albert Bandura, a professor of psychology at Stanford University, established the body of study regarding self-efficacy. Kirsch (1986) points out that while Bandura coined the term "self-efficacy" as recently as 1977, much study of the subject was conducted prior to that time. Terms such as "expectancy for success in achievement situations" are seen in the literature prior to 1977.

At the annual meeting of the American Educational Research Association, Schunk (1988) examined evidence concerning students self-

efficacy rising when feedback clues were given about their application of knowledge and skills. Bandura (1977) insisted from the outset that if appropriate psychological interventions were applied, the level and strength of self-efficacy would rise.

In her work with adult learners who were student nurses, Tarnow (1979) reminds educators that an important element is the setting of attainable goals at small intervals so the learner experiences success often enough to feel stimulated and rewarded. She concludes that the purpose of education is to make experiences available which will promote growth as evidenced by more effective, realistic, successful behavior. It is not difficult to make the connection between frequent success and a heightened belief in one's own ability to continue to succeed.

There have been criticisms of Bandura's, and , others', work and postulations concerning self-efficacy. If efficacy is a self-perception, is it realistic to expect to find it translated into action? Bandura (1984) addresses his critics by stating that the person with a high level of self-efficacy feels, thinks, and acts differently than a person whose efficacy levels are low. It is a mechanism which affects human action.

Adult Learning

Knowles (1970) combined several thoughts in bringing his androgogy

versus pedagogy discussion into print. Maslow's hierarchy of human needs is a fairly consistent thread within Knowles' work as it applied to an individual's need to fully realize available potential. Carl Rogers' (1983) premise that the greatest, most encompassing need humans have is the need for growth, which is woven into much of adult learning theory. One of the assumptions crucial to adult learning theory is that of progress from being a dependent personality to becoming a self-directed human being. To do so requires growth. Another basic premise of adult education is that one must accumulate a growing reservoir of experience which becomes an increasing resource for learning. There is no way to accomplish this progression without a great deal of personal growth taking place.

From a point of individual learning in the adult mode, Knowles (1978a) expands and broadens usefulness of the concepts into the arena of giant corporations. Inculcation of adult learning tools into executive training programs is well documented (Knowles, 1978b).

It is interesting to note that in the field of community development, which at this time must necessarily include gerontologic considerations (Ramirez, 1990), adult education is seen as a building block in the construction of a viable community. Stuen and Kaye (1990) suggest that retired university faculty be tapped as a resource to assist in projects where adult learning is a factor. When Tarnow and her nursing faculty (1979)

formulated the 18 learning principles they wanted to utilize in teaching student nurses, they chose language which strongly suggests a correlation with Knowles' principles of adult education.

What seems to be missing from the current body of literature are valid, reliable instruments to measure self-efficacy. LaFromboise (1986) developed a tool for use in a university setting. In collaboration with Dr. Bandura (personal communication, 1990) it has been redesigned to apply more suitably to a community college population.

Summary

There is adequate supportive literature dealing with self-efficacy and an abundance of material concerning theories of adult education, principally centering around the work of Malcolm Knowles in the late 60s and 70s. It seems logical to combine Bandura's concept of self-efficacy and Knowles' contributions in adult education as a framework for this study. A lack occurs in the literature dealing with testing for self-efficacy. The one available tool was originally designed for use on the university level. This tool was reconstructed for use in this study involving a community college population.

Chapter 3

DESIGN

A paper and pencil, four component (academic, clinical, stress, and interpersonal) test was designed to be taken by members of the first year, first semester nursing class in a mid-California community college. The purpose of the test was to measure self-efficacy on an individual basis and identify those students whose self-efficacy was determined to be 80% or less on a scale of 0 to 100. The figure of 80% was arbitrarily chosen since no student scored at 50% or below, the figure originally suggested by Bandura (personal communication, 1990). Those students who tested at 80% or lower were randomly placed in one of three clinical groups: the researcher's 1st clinical group (self-efficacy group), or either of the two remaining clinical groups (clinical group #2 or clinical group #3). The researcher/instructor for the self-efficacy group consistently employed the early interventions suggested by Bandura as those most likely to raise self-efficacy: skills mastery and feedback, modeling, and verbal persuasion. The instructors for the other two clinical groups utilized the same teaching methodologies they had used in the past, which may or may not have included self-efficacy techniques.

Subjects and Setting

Thirty-five first year student nurses took part voluntarily in the study. Four were males, 31 were females. There were nine female minority

students in this class. All students were in the first semester of their nursing classes. There were six returning students who, for a variety of reasons, had not completed this course the previous year.

The students were randomly placed in one of three clinical groups which comprised the clinical sections for laboratory experience at the local community hospital, a 230-bed acute care facility. All groups were more or less equal in size.

For purposes of this study, all in the class were considered adult learners. The four traits of adult learners identified by Knowles (1970) include increased self-direction of the adult, the consideration of the adult as a rich learning resource, readiness to learn growing out of developmental tasks, and the need of the adult learner to use immediately the newly gained knowledge. These traits apply to adult learners more or less uniformly. The three elements postulated by Bandura capable of raising self-efficacy include skills mastery and feedback, modeling, and verbal persuasion. These elements are most often applied within the clinical setting, particularly the first two; verbal persuasion may take place just as readily in the classroom.

Human Subjects Approval

Approval for this study was granted on August 13, 1990 by the Institutional Review Board - Human Subjects at San Jose State University. (Appendix A)

Data Collection

Students taking part in the study were assigned code numbers; the four-part paper and pencil test was administered by a research assistant who also randomly assigned students to one of three clinical groups. All materials were placed in a secure file, under lock and key.

Instrument

The instrument consisted of a four-part pencil and paper test which took approximately 15 minutes to complete. The original version of this test was constructed by LaFromboise (1986) at Stanford University and was intended for use among students of nursing in a university setting (Appendix B). Some elements were deleted or changed to more easily conform to the requirements of a community college student nurse population. Content validity was furnished in part by Bandura (personal communication, 1990). Neither validity nor reliability have been established. No pilot study was done.

Analysis Procedures

Each of the three clinical sections was compared to the others using descriptive statistics, frequencies, and percentages. In addition, the relative positions of the self-efficacy scores for each individual were calculated. The analysis determined the range of self-efficacy scores for each member of the class, the numbers placing 81% or above, those placing 80% or below, and the

division of the three clinical groups (see Chapter 4, Figure 1). In addition, the retention information for each student was collected in the first and second semesters (see Figures 1 and 2, Chapter 4.)

For purposes of this study it was considered that completion of the first semester of the nursing program would serve as an indicator of retention. Those completing the first semester, even though testing below 80% for doing so, were considered successfully retained.

Chapter 4

ANALYSIS & INTERPRETATION OF DATA

Description of the Sample

In a mid-California community college, 35 first year, first semester nursing students took part in a study involving self-efficacy. Using a pencil and paper test, individual self-efficacy was determined. Those showing scores of 80% and below were randomly placed in one of three clinical groups. In one group, designated the first or self-efficacy clinical group techniques identified by Bandura as raising self-efficacy were consistantly utilized. The remaining two clinical groups were taught with no particular emphasis on techniques to boost self-efficacy. The study population included 4 males, and 31 females, 9 of whom were minorities. At the end of the first semester in nursing school for the 35 students taking part in the study it was found that 11% had not completed the course in fundamentals of nursing. Two students could not satisfactorily complete the academic portion, one underwent surgery, and one was a reservist who was called to active duty in Desert Shield/Storm (see Figures 1 and 2).

Of the 12 students who scored beneath 80% on the self-efficacy scale, 4 had been randomly placed in the researcher's self-efficacy group and all completed the semester. Two students in the second clinical group and one student in the third clinical group did not complete the first semester. Thus,

the students in the first or self-efficacy group had a higher retention rate than the students in the other two clinical groups. When students' names were matched with their scores the following data emerged: A student who placed fourth from the top in self-efficacy was originally on the alternate admissions list, not having been admitted because of lower than desired grades. This student was in academic jeopardy from the beginning of the semester but this was not reflected in her perceived ability to complete the coursework. Of the 12 students scoring 80% or below, 6 (50%) were returning students, all of whom had some previous experience with the coursework, expectations of the course, faculty, clinical facilities, and support services. Of these 12, 2 were minority and one was male. Only one of these six did not complete the first semester. For additional information related to retention, the students were all tracked into and through the second semester. Three of the six returning students did not complete the second semester (see Figures 1 and 2). The student who scored lowest of all among the 35 who participated in the study, was one of the six repeating students. This student completed both semesters.

To what extent the instructors of the second and third clinical groups utilized Bandura's interventions cannot be categorized. The researcher/clinical instructor for the experimental group consistently made a concerted effort to utilize skills-feedback, modeling, and verbal persuasion at every identifiable opportunity.

The findings indicate that, in this study, 100% of the 14 students in the first or self-efficacy clinical group were retained, 85% of the students in the second clinical group were retained, and 88% of the nine students in the third clinical group were retained.

Each test was hand-scored; the cumulative scores from the four components comprised each student's final score. The size of the sample and the desired information did not lend themselves to Chi Square analyses. The retention rates at the end of the first and second semesters are noted in Figures 3 and 4.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Summary of the Study

In a relatively small sampling of first semester student nurses of mixed ethnic backgrounds, those whose self-efficacy tested below 80% were identified through use of a four-part testing tool which concentrated on academic, clinical, stress, and interpersonal components. The 35 students who took part in the study were randomly assigned to one of three groups for their clinical experience during the first semester of the program. The researcher/clinical instructor in charge of the self-efficacy group utilized, as consistently as possible, the three interventions (skills-feedback, modeling, and verbal persuasion) which sources suggest will raise self-efficacy.

Of the students who scored below 80% for self-efficacy, four were randomly placed in the first clinical or self-efficacy group, five were placed in the second clinical group and two were placed in the third clinical group. All five low-scoring students in the self-efficacy group were retained, three were retained from the second clinical group and both were retained in the third clinical group. Both of the students who did not complete the semester were in academic jeopardy from the outset.

There were three students who scored well above the 80% cut-off for self-efficacy who also failed to complete the first semester of the nursing program:

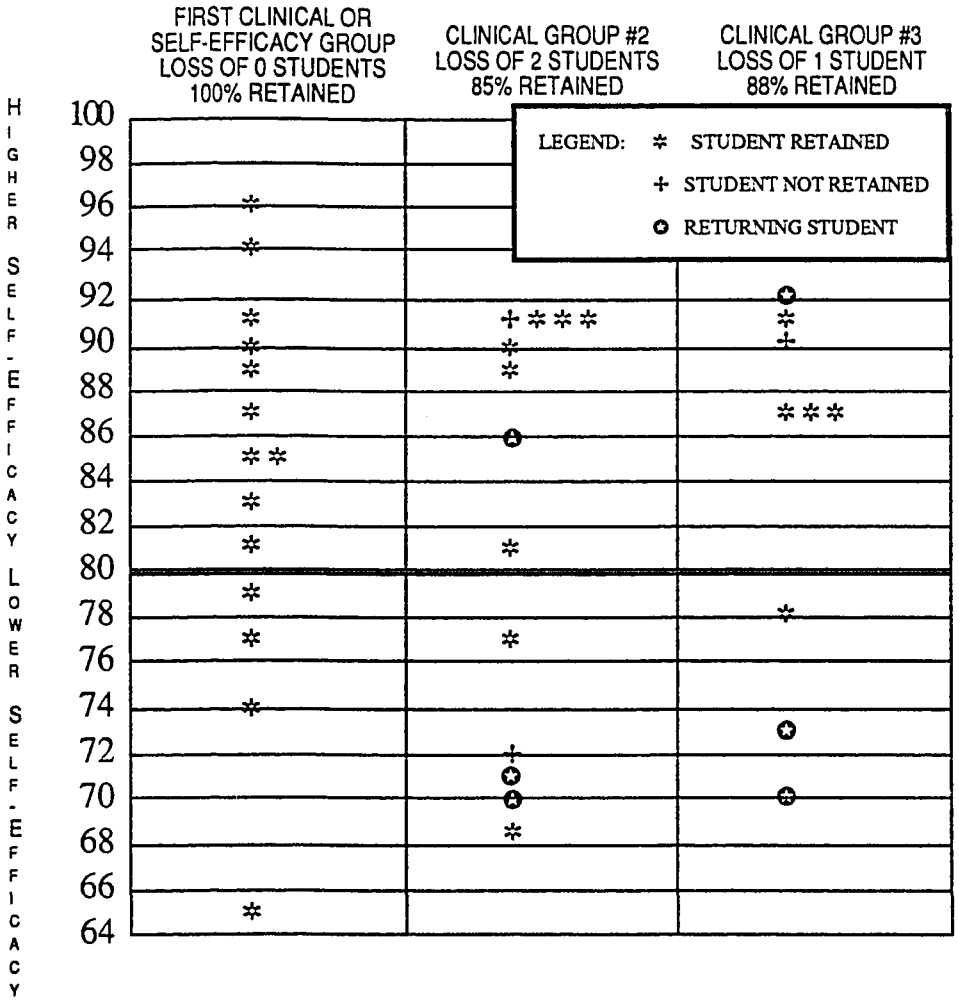
One needed surgery early in the semester, prior to being assigned to a clinical group; one was an academic failure, assigned randomly to the second clinical group; and the third, randomly assigned to the third clinical group, was called to active duty in Desert Shield/Storm.

In reviewing the original research question connected with this study it was found that the retention rates were somewhat higher in students consistently exposed to self-efficacy raising techniques. In the self-efficacy group of 14 students, 100% were retained compared with 85% retention in the second clinical group of 13 students, and 88% retention in the third clinical group of nine students. Note that three of the four students who tested below 80% self-efficacy also completed the second semester (see Figure 2).

The interpretation of data from this relatively small study must be viewed with caution. There are many factors which influence the lives of students during a semester that are not addressed in this study. The maturation process is unique to each person and circumstances concerning personal health, family, and finances can all change rapidly.

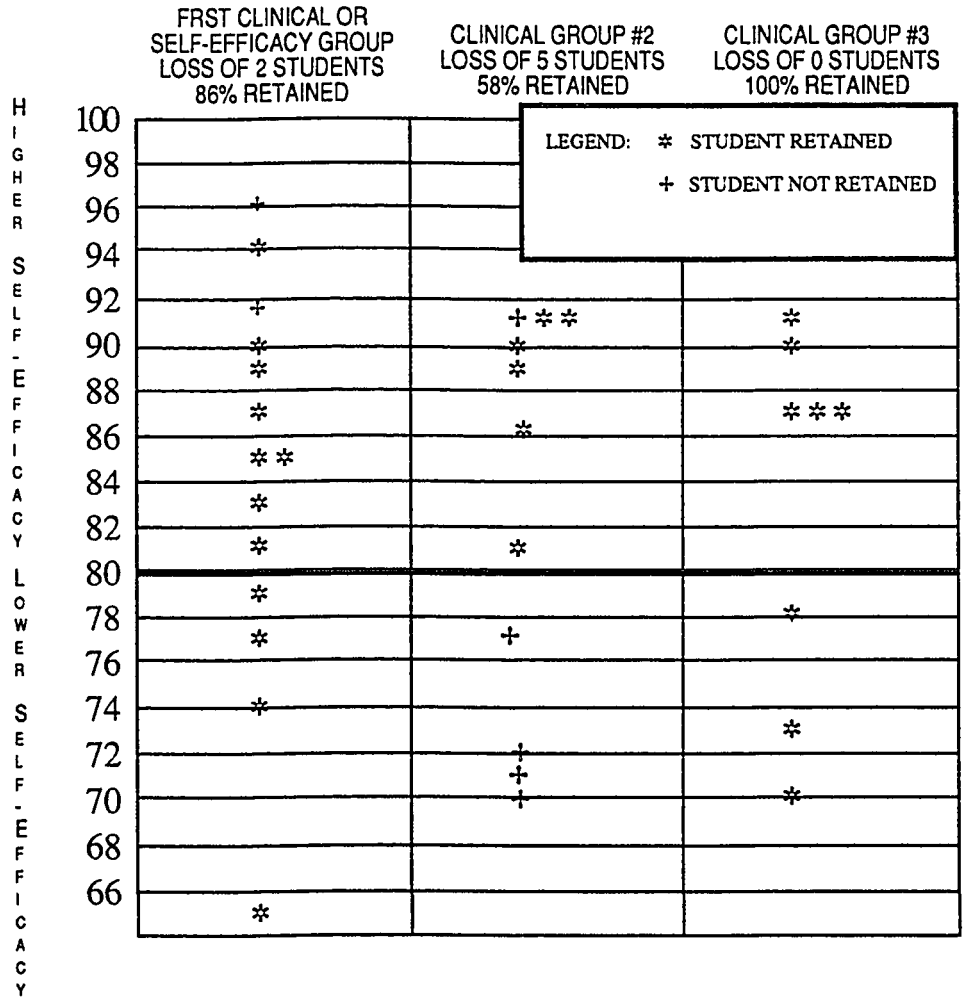
Recognition of student nurses as adult learners with the inherent attributes accorded to this group by Knowles (1977) is a logical base upon which self-efficacy may be raised to a greater or lesser degree. Consistent application of Bandura's suggested interventions to raise self-efficacy: Skills mastery and feedback, modeling, and verbal persuasion were the strategies

FIGURE 1



SELF-EFFICACY SCORES & RETENTION OF 3 CLINICAL GROUPS:
Retained and Not Retained: First Semester, Fall 1990

FIGURE 2



SELF-EFFICACY SCORES & RETENTION OF 3 CLINICAL GROUPS:
Retained and Not Retained: Second Semester, Spring 1991

utilized in this study.

A study of this nature raises questions as well as answers. Did the clinical instructors for clinical groups 2 and 3 utilize the suggested interventions to raise self-efficacy, and if so, to what extent? Undoubtedly they did to some degree; these tools are at the disposal of every teacher. The researcher/clinical instructor for the first or self-efficacy clinical group was, because of this study, particularly aware of the interventions and made a consistent effort, on each occasion, each day, with each of the students in this clinical group for the entire semester.

Conclusions

In searching for a meaningful methodology for retention of student nurses through the first semester of nursing school a small population (35) of adult learners was administered a four-part paper and pencil test in order to determine individual levels of self-efficacy. The 35 student nurses were then randomly placed in one of three clinical groups for the remainder of the 17-week semester. Those in the first or self-efficacy group were recognized as adult learners. According to Knowles (1970), adult learners possess the following characteristics: increased self-direction, a rich source of learning, readiness to learn growing out of developmental tasks, and the immediate use of newly gained knowledge. The self-efficacy group was also consistently exposed to the three mechanisms Bandura (1977) states will raise self-efficacy:

skills mastery, and feedback, modeling and verbal persuasion.

There were 14 students randomly placed in the first or self-efficacy clinical group, four of whom had tested below 80% using the self-efficacy testing tool. At the completion of this semester, all fourteen (100%) had been retained (see Figure 1). Twelve of the 14 went on to complete the second semester including the 4 who tested below 80% in self-efficacy (see Figure 2). Of the remaining seven students testing below 80% in self-efficacy and randomly placed within the second or third clinical groups, four had withdrawn prior to the end of the second semester due to failure to meet established clinical standards. Among the students who tested above 80% for self-efficacy, three additional (for a total of five) had withdrawn from the program by the close of the second semester (see Figure 2). One of that group of students withdrew for health reasons before assignment to a clinical group. Of the remaining four, one was in the first or self-efficacy clinical group and the other three in the second or third clinical groups.

Scope and Limitations

Thirty-five students and the researcher/clinical instructor took part in this study. It was conducted one time in one location, without replication, making it a limited study. The instrument did not have established reliability or validity. It can only be assumed to what degree the clinical instructors involved with the second and third clinical groups may or may

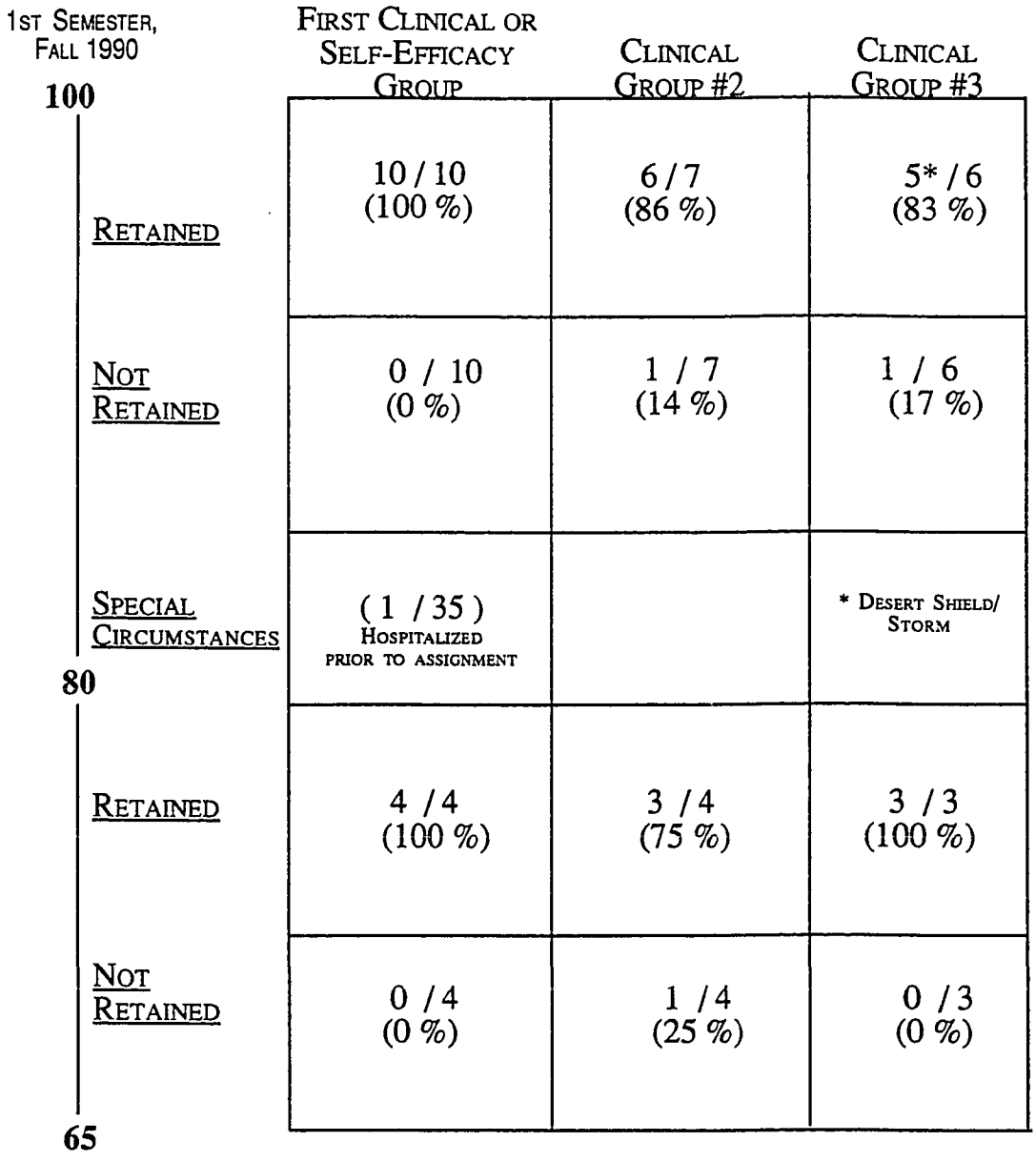
not have, utilized self-efficacy raising techniques.

Recommendations

The ideal retesting schema would be the testing of several classes in succession with the same researcher/clinical instructor in charge of the self-efficacy group each time and with accurate record keeping as to who was retained, who left the program, and for what reasons. Use of the testing tool at both the beginning and the end of the semester would be advisable. The expectation would include emergence of an identifiable pattern within a 5 year period.

A recommendation growing out of this study would be that nursing educators consistently employ techniques to raise self-efficacy. These educators must also recognize that adult learners' educational needs differ from those of children. The original premise of this study included the fact that student nurses should be retained if possible, because of the current nursing shortage. Historically, the shortage of available nurses waxes and wanes (Bray, 1989). In reality, student nurses ought to be retained in programs of preparation in recognition of the fact that quality health care providers are always in demand.

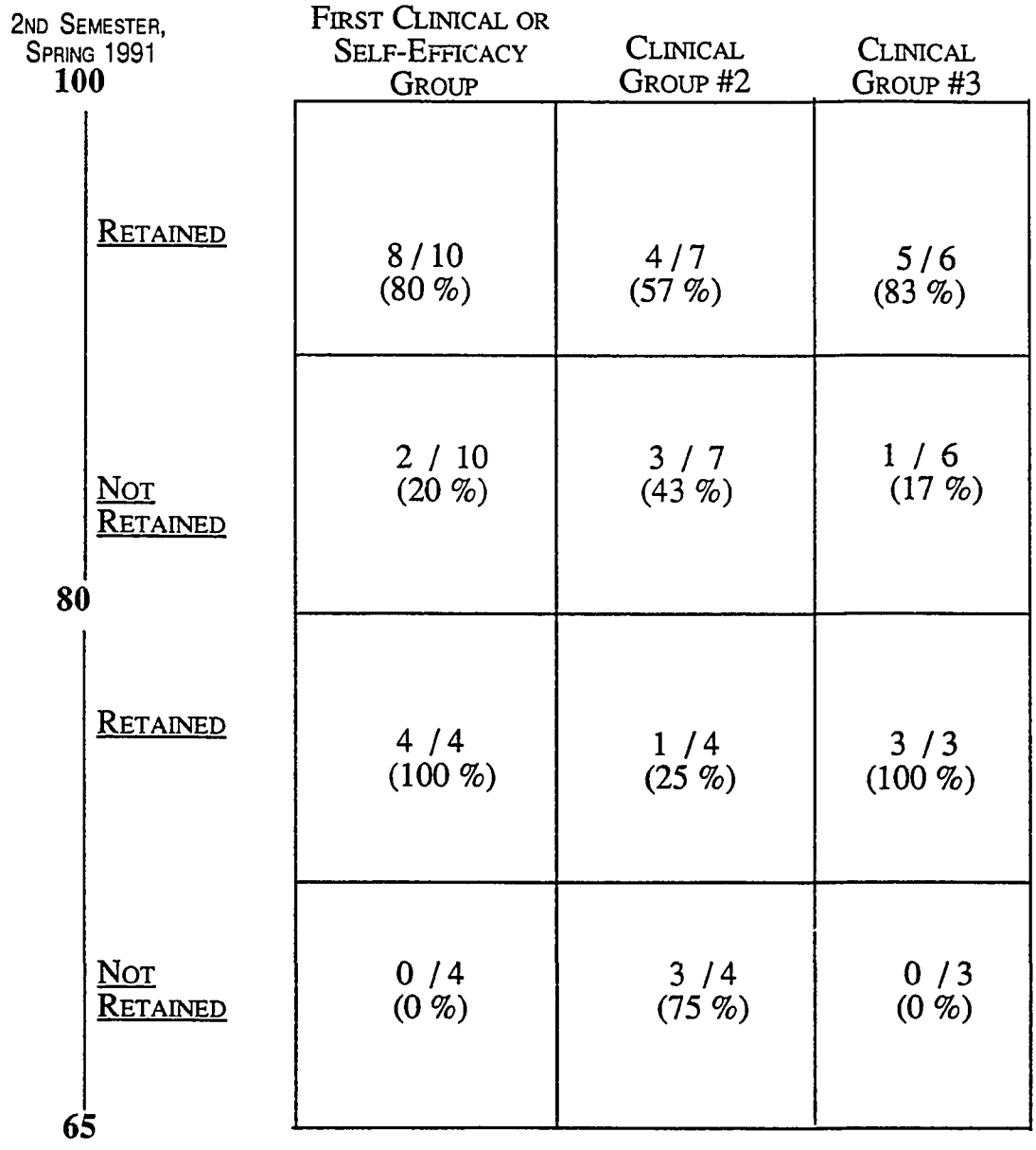
FIGURE 3



RESULTS OF SELF-EFFICACY TESTS ON 35 STUDENT NURSES

RETAINED/NOT RETAINED #'S AND SCORES: SELF-EFFICACY TEST GROUPS

FIGURE 4



RESULTS OF SELF-EFFICACY TESTS ON 35 STUDENT NURSES
RETAINED/NOT RETAINED #'S AND SCORES: SELF-EFFICACY TEST GROUPS

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APPENDIX A

SJSU SAN JOSE STATE UNIVERSITY

A campus of The California State University

Office of the Academic Vice President • Associate Academic Vice President • Graduate Studies and Research
One Washington Square • San Jose, California 95192-0025 • 408/924-2480

To: Margaret Eaton, Nursing
622 Kiowa Circle
Salinas, CA, 93906

From: Charles R. Bolz
Office of Graduate Studies and Research

Date: August 13, 1990

Charles R Bolz

The Human Subjects Institutional Review Board has approved your request to use human subjects in the study entitled:

"Self-Efficacy in Student Nurses"

This approval is contingent upon the subjects participating in your research project being appropriately protected from risk. This includes the protection of the anonymity of the subjects' identity when they participate in your research project, and with regard to any and all data that may be collected from the subjects. The Board's approval includes continued monitoring of your research by the Board to assure that the subjects are being adequately and properly protected from such risks. If at any time a subject becomes injured or complains of injury, you must notify Dr. Serena Stanford immediately. Injury includes but is not limited to bodily harm, psychological trauma and release of potentially damaging personal information.

Please also be advised that each subject needs to be fully informed and aware that their participation in your research project is voluntary, and that he or she may withdraw from the project at any time. Further, a subject's participation, refusal to participate or withdrawal will not affect any services the subject is receiving or will receive at the institution in which the research is being conducted.

If you have any questions, please contact Dr. Stanford or me at (408) 924-2480.

cc: Mary Reeve, Ph.D.

APPENDIX B

(Original Tool)

Academic/Clinical/Stess Self-Efficacy Scale

Name_____

Date_____

Confidence Scale

0 10 20 30 40 50 60 70 80 90 100

Quite Uncertain — Moderately Certain — Certain

ACADEMIC SUCCESS	CONFIDENCE
Debate a theoretical issue with a college professor and come to some mutual understanding of the issue.	_____
Complete the program for the degree you are pursuring.	_____
Tutor and help students through a course as a T.A. and receive good ratings.	_____
Give a class presentation with competence and ease.	_____
Volunteer to be the first one to deliver your presentation	_____
Carry a 16-unit course load and receive satisfactory grades for one semester.	_____
Make a 2.5 GPA with a 16-unit course load.	_____
Make a 3.5 GPA with a 16-unit course load.	_____
Write a 10-page paper on the nursing process.	_____

Confidence Scale

0 10 20 30 40 50 60 70 80 90 100

Quite Uncertain — Moderately Certain — Certain

CLINICAL ACTIVITIES	CONFIDENCE
Seek different sources of information and help needed to complete tasks required on the job.	_____
Persevere in the face of difficult obstacles.	_____
Give yourself credit for successful performance.	_____
Handle sexist/racist behavior and attitudes with tact and diplomacy.	_____
Rely on your own measurement of success over the standards of others.	_____
Resist pressure to subordinate your career to marriage and child rearing activities.	_____
Approach a "difficult patient" with confidence.	_____
Explain to your clinical instructor an error you have made.	_____
Explain to the head nurse why your assignment is not completed.	_____
Stand up for yourself when a physician questions you about the care of his/her patient.	_____

Confidence Scale

0 10 20 30 40 50 60 70 80 90 100

Quite Uncertain — Moderately Certain — Certain

STRESS MANAGEMENT	CONFIDENCE
Maintain a sense of humor or positive attitude despite setbacks.	_____
Allow adequate time for yourself.	_____
Cope with difficult situations without placing heavy strain on family relations.	_____
Maintain health habits that promote physical well being.	_____
Manage financial difficulties with little interruptions in progress toward completing you academic program.	_____
Maintain your academic workload without experiencing a lot of stress.	_____
Stop self-criticisms when they are counter-productive.	_____
Make your own choices without feeling guilty over traditional role expectations.	_____
Use your "good" working hours for optimal productivity.	_____

APPENDIX C

(Revised Tool) CODE NO._____

Academic/Clinical/Interpersonal/Stress Self-Efficacy Scale

Name_____

Date_____

Confidence Scale

0 10 20 30 40 50 60 70 80 90 100

Cannot Do At All — Moderately Certain Can Do — Certain Can Do

ACADEMIC SUCCESS	Confidence
Debate a theoretical issue with a college professor and come to some mutual understanding of the issue.	_____
Complete the program for the degree I am pursuing within the standard time.	_____
Tutor and help students through a course as a T.A. and receive good teaching ratings.	_____
Deliver a class presentation skillfully.	_____
Volunteer to be the <u>first</u> one to deliver my presentation.	_____
Carry a 16-unit course load and receive satisfactory grades for one semester.	_____
Make a 2.5 GPA with a 16-unit course load.	_____
Make a 3.5 GPA with a 16-unit course load.	_____
Assist in teaching a Basic First Aid course.	_____
Write a 10-page paper on the nursing process.	_____

CODE NO. 40

Confidence Scale

0	10	20	30	40	50	60	70	80	90	100
Cannot Do At All				Moderately Certain Can Do						Certain Can Do

CLINICAL ACTIVITIES	Confidence
Seek different sources of information and help needed to complete job satisfactorily.	_____
Persevere in the face of difficult obstacles.	_____
Give myself credit for successful performance.	_____
Handle sexist/racist behavior and attitudes with tact and diplomacy.	_____
Rely on my own measure of success rather than the standards of others.	_____
Resists pressure to subordinate my career to marriage and child rearing activities.	_____
Approach and take care of a "difficult patient" with confidence.	_____
Explain to my clinical instructor an error I have made.	_____
Explain to the head nurse why my assignment is not completed.	_____
Stand up for myself when a physician questions me about the care of his/her patient.	_____

CODE NO. 41

Confidence Scale

0	10	20	30	40	50	60	70	80	90	100
Cannot Do At All				Moderately Certain Can Do						Certain Can Do

STRESS MANAGEMENT	Confidence
Maintain a sence of humor or positive attitude despite setbacks.	_____
Allow adequate time for myself.	_____
Cope with difficult situations without using drugs or liquor.	_____
Maintain my academic workload without placing heavy strain on family relations.	_____
Maintain health habits that promote physical well being.	_____
Manage financial difficulties with little interuptions in progress toward completing my academic program.	_____
Maintain my academic workload.	_____
Stop self-criticisms when they are counter-productive.	_____
Make my own choices without feeling guilty over traditional role expectations.	_____
Use my "good" working hours for optimal productivity.	_____
Can easily unwind myself after a long hard day.	_____
Can tolerate a lot of pressure on the job.	_____
Can take my mind off upsetting experiences.	_____

CODE NO. 42

Confidence Scale

0	10	20	30	40	50	60	70	80	90	100
Cannot Do At All				Moderately Certain Can Do						Certain Can Do

INTERPERSONAL EFFICACY	Confidence
Develop a good working relationship with supervisor.	_____
Devolop a good working relationship with House staff.	_____
Develop a good working relationship with other nurses.	_____